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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/625,014	07/25/2000	Michael R. Sogard	PA0286-US/11269.19	7165

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Steven G Roeder
5560 Chelsea Avenue
La Jolla, CA 92037

EXAMINER

JONES, JUDSON

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/625,014

Applicant(s)

SOGARD ET AL.

Examiner

Judson H. Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 8, 12-24, 30, 34-45, 48 and 51-59 is/are rejected.
- 7) ☒ Claim(s) 3-7, 9-11, 25-29, 31-33, 46, 47, 49 and 50 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02. The oath or declaration is defective because:

It does not identify the citizenship of each inventor.

Claim Objections

Claim 13 is objected to because of the following informalities: there is no antecedent basis for "the conductor housing." Claim 12 includes a conductor housing but claim 13 does not depend from claim 12. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 8, 14, 15, 18-24, 30, 36, 39-45, 48 and 54-59 are rejected under 35 U.S.C. 102(e) as being anticipated by Markle 6,072,251. Markle discloses a conductor array 606 that generates both a drive magnetic field and a stray magnetic field, an auxiliary conductor array 608 as described in column 10 lines 10-26 that generates an auxiliary magnetic field and reduces the stray magnetic field as described in column 11 lines 15-19.

In regard to claims 8, 30 and 48, see Markle column 10 lines 10-18 where 6 coil wires each are recited for wire layers 606 and 608. Dividing one set of six in half would produce a pair of coil sets for the auxiliary conductor array.

In regard to claims 14 and 36, see Markle column 11 line 19. The words "nearly canceled" are viewed as being in the range of at least approximately 100.

In regard to claim 15, see Markle figure 6. X-Y stages are a combination of a linear motor movable in the X direction and a linear motor movable in the Y direction.

In regard to claims 18-22, 39-43 and 54-58 see Markle column 1 lines 13-17.

In regard to claim 59, see Markle column 10 lines 14-21. If n equals 2, then the number of drive conductors will be four.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12, 13, 34, 35 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Markle in view of Hoffman et al. 5,352,946. Markle discloses the brushless motor with the conductor and magnet arrays but does not disclose a conductor housing. Hoffman et al. discloses a housing for the conductor component of a planar motor in column 4 lines 55-60. Since Hoffman et al. and Markle are both from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a housing for a brushless planar motor in order to protect the motor from damage and to keep gases, liquids or solids from a motor from contaminating a clean room.

Claims 16, 17, 37, 38, 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Markle in view of Trumper. Markle discloses the motor with the conductor and magnet arrays but does not disclose the conductor component positioned between magnet arrays. However Trumper teaches in column 7 lines 10-15 that either the magnet component or the coil component can be movable. Trumper teaches making the magnet movable because it is easier to make electrical connections to a fixed coil. However coils are generally lighter than magnets and therefore the size of the motor can be reduced when the coil is the movable member. Trumper also teaches in column 9 that a planar motor can have force producing elements on one side of a movable member or on both sides of a movable member. Having elements on only one side simplifies controls and allows a larger work area on top of the platen while elements on two sides allows more control and positional stability. Since Trumper and Markle are both from the same field of endeavor, it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a motor drive conductor

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component positioned between two magnet arrays in order to reduce the size of the motor required and also increase the positional stability and control of the motor.

In regard to claims 17, 38 and 53, in Markle the auxiliary conductor components are coplanar with the drive conductor components as shown in figure 6. Therefore when the drive conductor component is between two magnet arrays, the auxiliary conductor component will also be between the two magnet arrays.

Allowable Subject Matter

Claims 3-7, 9-11, 25-29, 31-33, 46, 47, 49 and 50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or teach a drive conductor array for interacting with a movable magnet component or plurality of magnets combined with an auxiliary winding for reducing a stray magnetic field where the auxiliary winding has no influence on the relative positions of the magnet component and drive conductor component as recited in claims 3 and 25. The prior art of record does not disclose or teach an auxiliary conductor substantially encircling the conductor drive component as recited in claims 4, 26, 46 and 49. The prior art of record does not disclose or teach an auxiliary conductor array including upper and lower longitudinal coils sets combined with left and right transverse coil sets as recited in claims 9 and 31. The prior art of record does not disclose or teach an auxiliary conductor array with left and right transverse coils sets wherein the coil sets generate forces substantially equal and opposing as recited in claims 11, 33, 47 and 50.

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ishii discloses a motor for a magneto-optical disk apparatus combined with means for generating an auxiliary magnetic field to oppose a stray magnetic field generated by the motor where the auxiliary magnetic field has no influence on the relative positions of the fixed and movable portions of the motor. No motor details are provided. Shinozaki et al. teaches using a stray magnetic field to move a motor and a data recording surface relative to one another. Shinozaki et al. also discloses motor details for a magneto-optical disk apparatus like the one disclosed by Ishii. As shown in figure 3 of Shinozaki et al., the motor has no magnet array or conductor array. Therefore combining the teachings of Shinozaki et al. or the teachings of Ishii with Markle would not have been obvious to one of ordinary skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JHJ *JHJ*
January 28, 2003

Judson Jones
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